Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules Governing Certain Aviation Ground Station Equipment	)	WT Docket No. 10-61
	)	
Petition of the National Telecommunications and Information Administration to Allow Aeronautical Utility Mobile Stations to Use 1090 MHz for Runway Vehicle Identification and Collision Avoidance	)	RM-11503
	)	
Potomac Aviation Technology Corporation Request for Interpretation or Waiver of Sections 87.71 and 87.73 of the Commission's Rules	)	WT Docket No. 09-42

NOTICE OF PROPOSED RULE MAKING

Adopted: March 11, 2010 **Released: March 16, 2010**

Comment Date: [60 days after publication in the Federal Register]
Reply Comment Date: [90 days after publication in the Federal Register]

By the Commission:

I. INTRODUCTION

1. In this *Notice of Proposed Rule Making*, the Commission is taking steps to promote aviation safety on runways. Here, we move forward with a proposal that would allow better detection and management of maintenance and other vehicles on runways, to help avoid airplane collisions. We also seek comment on additional equipment monitoring and certification issues.

2. Specifically, we address pending issues regarding certain Aviation Service ground station equipment. Primarily, we consider a petition for rulemaking filed by the National Telecommunications and Information Administration (NTIA),[1] and supported by the Federal Aviation Administration (FAA), requesting that the Commission amend Part 87 of the Commission's Rules to allow use of the frequency 1090 MHz by aeronautical mobility mobile stations for airport surface detection equipment (ASDE-X), commonly referred to as vehicle "squitters."[2] We also seek comment on a proposal by Potomac Aviation Technology Corporation (PATC) to permit remote monitoring of certain automated ground stations during installation and maintenance, without a licensed technician present. Finally, we propose to codify the terms of a waiver granted to Aviation Data Systems (Aust) Pty Ltd. (ADS) to permit licensing and equipment certification of devices to test aircraft data link systems.

[1] *See* Petition for Rulemaking of the National Telecommunications and Information Administration (filed July 29, 2008) (NTIA Petition).

2 "Squitter" refers to random output pulses from a transponder caused by ambient noise or by an intentional random triggering system, but not by the interrogation pulses.

II. DISCUSSION

A. Vehicle Squitters

1. Background

3. Air traffic controllers utilize ASDE-X to manage the movement of aircraft on airport surfaces, but the current system does not allow the positive identification of ground vehicles such as snowplows and maintenance vehicles that routinely operate on the runway movement area.[3] Unless the vehicle is visible from the control tower, air traffic controllers can determine only its location on the control tower radar screen, but not the type of vehicle or the operator.[4] In response to growing concerns about airplanes colliding with, or having to take evasive maneuvers to avoid, vehicles on the airport surface,[5] FAA seeks to implement the use of ASDE-X to manage the movement of both aircraft and service vehicles in the runway movement area.

4. Accordingly, NTIA requests amendment of Sections 87.131, 87.133, 87.137, 87.173, 87.345, and 87.349 of the Commission's Rules[6] to designate the frequency 1090 MHz for use by aeronautical utility mobile stations, subject to certain limitations and technical requirements. NTIA states that this would improve the safety of the flying public and airline and airport employees by reducing the risk of aircraft colliding with vehicles on the airport surface.[7]

5. In response to a *Public Notice* seeking comment on the petition,[8] the Commission received five comments and one reply comment.[9] The commenters all support the petition, though some recommend different licensing, operational and technical parameters. NTIA subsequently requested a waiver to permit use of vehicle squitters pending the resolution of its rulemaking petition.[10] The request

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[3] NTIA Petition at 4. The runway movement area consists of the runways, taxiways and other areas utilized for taxiing, takeoff and landing of aircraft, exclusive of loading ramp and parking areas. 47 C.F.R. § 87.345.

[4] NTIA Petition at 4.

[5] *See*, *e.g.*, National Transportation Safety Board, Safety Recommendation A-00-66 (July 6, 2000) (recommending that the FAA "[r]equire, at all airports with scheduled passenger service, a ground movement safety system that will prevent runway incursions"); *see also* NTIA Petition at 7 ("As the number of aircraft increase[s], the risk of incidents between aircraft and vehicles operating on the airport movement area also grows. Airports are consequently experiencing more runway incursions.").

[6] 47 C.F.R. §§ 87.131 (power and emissions), 87.133 (frequency stability), 87.137 (types of emissions), 87.173 (frequencies), 87.345 (aeronautical utility mobile station scope of service), 87.349 (aeronautical utility mobile station frequencies).

[7] *See* NTIA Petition at 2-3. It also states that the use of this frequency for ASDE-X for ground vehicles would expedite the development and deployment of vehicle identification capabilities because aircraft are equipped to transmit on 1090 MHz and air traffic control facilities already are equipped to receive the signals. *See id.* at 5.

[8] Wireless Telecommunications Bureau Seeks Comment on Petition for Rulemaking by the National Telecommunications and Information Administration to Allow Aeronautical Utility Mobile Stations to Use 1090 MHz for Runway Vehicle Identification and Collision Avoidance, *Public Notice*, RM-11503, 23 FCC Rcd 16611 (WTB MD 2008).

[9] Comments were received from Sensis Corporation (Sensis), the City of Atlanta and Hartsfield-Jackson Atlanta International Airport (Atlanta), Boeing Company (Boeing), the Massachusetts Port Authority, and the Airports Council International North America. Sensis also filed reply comments.

[10] *See* Wireless Telecommunications Bureau Seeks Comment on Request for Waiver by the National Telecommunications and Information Administration to Allow Aeronautical Utility Mobile Stations to Use 1090 (continued….)

was granted, subject to certain conditions.[11]

2. Discussion

6. *Interference.* In addition to ASDE-X, the frequency 1090 MHz is currently used for, among other things, air-to-ground communications in the Air Traffic Control Radar Beacon System, a system of ground-based transmitters that interrogate airborne transponders for secondary air traffic control surveillance radar;[12] and air-to-air communications in the Traffic Alert and Collision Avoidance System (TCAS), an airborne warning system designed to avert mid-air collisions.[13] NTIA states that FAA analyses indicate that the use of the frequency by ground vehicles would not affect the existing systems, provided that the number of vehicles at one airport does not exceed two hundred, and the transmit power does not exceed twenty watts.[14] NTIA also states that an RTCA assessment concluded that vehicle squitters on frequency 1090 MHz will not interfere with Global Positioning System (GPS) systems.[15] Boeing states that it supports the introduction of ASDE-X at 1090 MHz, but has interference concerns regarding the expanded use of the frequency, and will review the analyses and comment further in this proceeding.[16]

7. We tentatively conclude, based on the record before us, that it would further the public

(Continued from previous page)
MHz for Runway Vehicle Identification and Collision Avoidance, *Public Notice*, WT Docket No. 09-128, 24 FCC Rcd 9173 (WTB MD 2009) (*Vehicle Squitter Waiver Public Notice*).

[11] *See* Request for Waiver to Allow Aeronautical Utility Mobile Stations to Use 1090 MHz for Runway Vehicle Identification and Collision Avoidance, *Order*, WT Docket No. 09-128, DA 10-259 (WTB MD rel. Feb. 17, 2010).

[12] *See* Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems, *First Report and Order*, ET Docket No. 98-153, 17 FCC Rcd 7435, 7431 ¶ 130 (2002) (*Part 15 Report and Order*).

[13] *See* Review of Part 87 of the Commission's Rules Concerning the Aviation Radio Service, *Report and Order and Further Notice of Proposed Rule Making*, WT Docket No. 01-289, 18 FCC Rcd 21432, 21467 ¶ 74 & n.265 (2003) (*Part 87 Report and Order*). In the *Part 87 Report and Order*, the Commission adopted a proposal to permit ground testing of TCAS on frequency 1090 MHz, and amended Section 87.475(c)(2) of the Rules, 47 C.F.R. § 87.475(c)(2), accordingly. *See Part 87 Report and Order*, 18 FCC Rcd at 21467 ¶ 74. In amending Section 87.475(c)(2) again in the *Second Report and Order* in that proceeding, this time to provide for the use of frequency 978 MHz for Universal Access Transceiver operations, the Commission inadvertently removed the language authorizing ground testing of TCAS on 1090 MHz. *See* Review of Part 87 of the Commission's Rules Concerning the Aviation Radio Service, *Second Report and Order and Second Further Notice of Proposed Rule Making*, WT Docket No. 01-289, 21 FCC Rcd 11582, 11587-88 ¶ 6 (2006) (*Part 87 Second Report and Order*). We propose herein to correct that error by amending Section 87.475(c)(2) to restore the deleted language. In a previous proceeding, the Commission adopted non-substantive changes to paragraphs (b)(8) and (c)(1) of Section 87.475, but paragraphs (b)(9) through (b)(14) were inadvertently deleted from the rule as it appears in the Code of Federal Regulations. *See* Reorganization and Revision of Part 87 Governing the Aviation Services, *Memorandum Opinion and Order*, PR Docket No. 87-214, 4 FCC Rcd 2271, 2271 ¶ 8, 2274-75 (1989). We propose to correct that error by adding back paragraphs (b)(9) through (b)(14).

[14] *See* NTIA Petition at 6 (citing DOT VOLPE Center, *Effects of Extended Squitter Position Reporting From Ground Vehicles on the Performance of the Mode-S Radar System*, October 18, 2002; DOT VOLPE Center, *Predicted Interference Effects of Various 1030/1090 MHz Systems on SSR and TCAS*, January 12, 2007).

[15] *See id.* (citing RTCA SC-159, *Assessment of Radio Frequency Interference to the GNSS L5/E5A Frequency Band*, DO-292, July 29, 2004). RTCA (formerly the Radio Technical Commission for Aeronautics) is an FAA-sponsored association of aeronautical organizations with diverse membership. RTCA's Special Committees act under the Federal Advisory Committee Act, and its findings and recommendations are often adopted by government agencies. *Part 87 Second Report and Order*, 21 FCC Rcd at 11587 n.19.

[16] *See* Boeing comments at 2-3.

interest to designate frequency 1090 MHz for use by vehicle squitters. We request comment on whether the conclusions in the studies cited by NTIA are accurate, and if there are any additional interference criteria or methods that we should consider to protect current services operating on 1090 MHz.

8. As a possible alternative to 1090 MHz, we note that the frequency 978 MHz also is designated for use by aeronautical utility mobile stations.[17] It is less encumbered than 1090 MHz (though the Commission has authorized the use of Universal Access Transceiver technology for Automatic Dependent Surveillance – Broadcast (ADS-B) Service and other services,[18] and distance measuring equipment (DME) ground reply transponders[19] on 978 MHz), and appears to be suited for ASDE-X. While NTIA states in its petition that the development of equipment to receive on 978 MHz and to integrate the information into the existing ASDE-X system is not yet mature,[20] we ask commenters to consider whether a transition of ASDE-X equipment from 1090 MHz to 978 MHz will be necessary to alleviate potential interference issues on 1090 MHz.

9. *Technical and Operational Issues.* NTIA proposes a maximum transmitter power of twenty watts, a maximum bandwidth of fourteen megahertz, and an authorized emission of M1D.[21] It also proposes that transmissions be limited to twice per second if the vehicle is moving, or once every five seconds if the vehicle is stationary.[22]

10. Sensis, the prime contractor and design agent for the ASDE-X system, generally agrees with the proposed parameters,[23] but recommends the following message transmission rates, in order to conform with the RTCA minimum operational performance standard (MOPS) and the European Organisation for Civil Aviation Equipment (EUROCAE) Standard for this equipment[24]:

ADS-B Message	Rate When Moving	Rate When Stationary
Surface Position Message (Types 5, 6, 7, 8)	Every 0.4 to 0.6 seconds	Every 4.8 to 5.2 seconds
Aircraft Operational Status (Type 31)	Every 4.8 to 5.2 seconds	Every 4.8 to 5.2 seconds
Aircraft Identification and Type (Type 2)	Every 4.8 to 5.2 seconds	Every 9.8 to 10.2 seconds

[17] *See* 47 C.F.R. § 87.349(e).

[18] *See Part 87 Second Report and Order*, 21 FCC Rcd at 11587-88 ¶ 5. ADS-B Service automatically broadcasts GPS-derived information on the location, velocity, altitude, heading, etc., of an ADS-B equipped aircraft to other ADS-B equipped aircraft and to ADS-B ground stations for distribution to air traffic control systems. *Id.* at 11587 n.18.

[19] *See* 47 C.F.R. § 87.475(b)(6). DME consists of airborne interrogating receivers that provide pilots with the distance from a specific ground beacon transponder for navigational purposes. *Part 15 Report and Order*, 17 FCC Rcd at 7480 ¶¶ 126, 128.

[20] *See* NTIA Petition at 5.

[21] Emissions are designated by an alphanumeric code that indicates the type of modulation of the main carrier, nature of the signal(s) modulating the main carrier, and the type of information to be transmitted. *See* 47 C.F.R. § 2.201(b). M1D is phase-modulated digital data.

[22] *See* NTIA Petition at 3.

[23] *See* Sensis comments at 1.

[24] *See id.* at 3 (citing RTCA DO-260A, ADS-B MOPS), reply comments at 6-7 (citing EUROCAE Standard ED-102).

Sensis also recommends a frequency stability requirement of one thousand part per million (ppm), to match the applicable RTCA MOPS and the EUROCAE Standard.[25]

11. We tentatively concur with Sensis's recommendations to the extent they more accurately reflect the RTCA/EUROCAE standards for this equipment. However, commenters should consider whether these technical requirements are adequate to protect existing services and ensure proper operation of ASDE-X equipment, or whether any additional performance requirements or limitations are warranted. We also request that commenters state specifically each technical and/or operational standard the equipment should be required to meet for FCC certification.

12. Sensis also recommends that vehicle squitters be permitted to operate only in the runway movement area,[26] in order to prevent use of the system for purposes other than vehicle and aircraft safety, such as tracking baggage carts.[27] Similarly, NTIA proposes to permit 1090 MHz vehicle squitters operations only "where the primary purpose . . . is to provide surface data to aircraft and air traffic control authorities."[28] Atlanta, on the other hand, specifically contemplates using vehicle squitters to track baggage carts, though the anticipated area of such usage is not clear.[29] We seek comment on whether to limit operation of 1090 MHz vehicle squitters to the runway movement area.

13. *Licensing.* NTIA proposes that only airport authorities (or airport operators, which Atlanta contends is a more accurate term[30]) or entities approved by the FAA be eligible for licenses for aeronautical utility mobile stations to operate on frequency 1090 MHz, and that the Commission coordinate applications with FAA through the Interdepartment Radio Advisory Committee[31] (IRAC).[32] We tentatively agree with these proposals, because we believe that the FAA is best-suited to evaluate the need for vehicle squitters at each location.[33] We also seek comment on whether to require applicants to

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[25] *Id.* at 2 (citing RTCA DO-181C, Mode-S MOPS, section 2.2.3.1), reply comments at 4-5 (citing EUROCAE Standard ED-102 and associated ED-73A). NTIA originally proposed a frequency stability requirement of one ppm, *see* NTIA Petition at 2, but requested a requirement of one thousand ppm in its subsequent waiver request, *see Vehicle Squitter Waiver Public Notice*, 24 FCC Rcd at 9174 n.4, so it appears that NTIA concurs with Sensis's suggested requirement.

[26] *See* Sensis comments at 2, reply comments at 8-9. We note that NTIA proposed a similar limitation in its waiver request. *See Vehicle Squitter Waiver Public Notice*, 24 FCC Rcd at 9174 n.4.

[27] *See* Sensis comments at 2, reply comments at 8-9.

[28] *See* NTIA Petition at 3.

[29] *See* Atlanta comments at 4-5.

[30] *See id.* at 7.

[31] *See* NTIA Petition at 3. NTIA also proposes that licenses be granted only for airports with an ASDE-X multilateration system or ADS-B equipment. *Id*.

[32] The IRAC is a committee of the Federal departments, agencies, and administrations that advises NTIA in assigning frequencies to Federal radio stations and in developing and executing policies, programs, procedures, and technical criteria pertaining to the allocation, management, and use of the spectrum. *See* 47 C.F.R. § 2.1.

[33] Our rules already require IRAC coordination of applications for certain frequencies at airports. *See* 47 C.F.R. §§ 87.421 (airport control tower stations), 87.475(a) (radionavigation land stations and radionavigation land test stations). With regard to Atlanta's proposal to give the airport operator priority in license applications, *see* Atlanta comments at 8-9, we find this unnecessary and feel that the FAA in its coordination process can best determine the most appropriate licensee at a given location.

pre-coordinate with the relevant FAA Regional Office before filing an application with the Commission.[34]

14. NTIA also proposes to limit each license to a maximum of two hundred 1090 MHz aeronautical utility mobile stations per location,[35] the number of stations that the FAA concluded can operate at one location without affecting co-channel operations. Atlanta suggests that this may be insufficient for some larger airports, and proposes that an applicant be permitted to exceed the limit by demonstrating that technological advances have made it possible for more vehicle squitters to operate at an airport without negative impact.[36] We believe that the appropriate limit is best determined through the rulemaking process based on analysis by FAA and other relevant parties, rather than on a case-by-case basis as suggested by Atlanta. Consequently, we do not propose to incorporate such a waiver procedure.

B. Remote Monitoring of Automated Ground Station Equipment

15. Sections 87.71 and 87.73 of the Commission's Rules require that a holder of a General Radiotelephone Operator License (GROL) supervise and be responsible for all transmitter adjustments or tests, and measure the operating frequencies, of all land-based Aviation Service stations when the station is installed, maintained, or serviced.[37] PATC requested an interpretation that Sections 87.71 and 87.73 are satisfied by remote monitoring of the measurement results by personnel holding GROLs.[38] In the alternative, PATC requested a waiver with respect to its product VHF Radio Transceiver FCC ID TDOAVIACOM1 (AVIACOM1), which incorporates internal diagnostics to automatically measure frequency, power, modulation, and other technical parameters, and transmits the results to PATC for monitoring and review by personnel holding GROLs.[39] PATC argued that requiring a GROL holder to install and maintain equipment that is factory-sealed and has no user-serviceable or -adjustable components imposes an unnecessary burden on small airports lacking their own licensed technicians.[40] The FAA's Air Traffic Organization Technical Operations Services stated that it supported a waiver regarding maintenance and measurement, provided that 1) there are no field-repairable components, 2) the transceiver is a sealed unit, 3) it transmits over the aviation Unicom frequency, 4) the transmitter must be approved by the FAA, and 5) installation into the National Airspace System was done in accordance with Section 87.71.[41]

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[34] Our rules already require such pre-coordination of certain Part 87 applications. *See* §§ 87.323(b) (aviation support stations used for pilot training, coordination of lighter-than-air aircraft operations, or coordination of soaring or free ballooning activities), 87.475(a) (radionavigation land stations and radionavigation land test stations), 87.529 (automatic weather stations).

[35] *See* NTIA Petition at 3.

[36] *See* Atlanta comments at 6.

[37] *See* 47 C.F.R. §§ 87.71, 87.73.

[38] Request for Interpretation or Waiver of Sections 87.71 and 87.73 of the Commission's Rules (filed July 25, 2008) (PATC Request). The request remains pending.

[39] *See id.* at 3-4. PATC subsequently filed a similar request specifically with respect to the AVIACOM1 at Potomac Airfield, Fort Washington, Maryland. PG Airpark Assoc LM (dba Potomac Airfield) and Potomac Aviation Technology Corp (PATC) Request [for] FCC Interpretation or Waiver to FCC 87.71 and 87.73 (filed Nov. 12, 2008).

[40] *See* PATC Request at 1.

[41] *See* Letter dated Dec. 9, 2008 from Steven B. Zaidman, Vice President, Technical Operations Services, FAA, to Scott Stone, Wireless Telecommunications Bureau, FCC.

16. Only PATC commented in response to a *Public Notice* seeking comment on its request.[42] The request was granted in part.[43] We now request comment on whether and how Sections 87.71 and 87.73 should be amended to allow for remote monitoring, in lieu of attendance by a GROL holder, during installation and maintenance of land-based Aviation Service stations as proposed by PATC.

C. Aircraft Data Link Test Equipment

17. The Commission's Rules authorize aircraft data link systems, like the Aircraft Communications Addressing and Reporting System (ACARS) and Very High Frequency Digital Link (VDL2), that transmit data automatically between ground personnel and aircraft[44] using G1D emission.[45] Section 87.131 of the Commission's Rules, however, does not authorize G1D emission for radionavigation land test (RLT) equipment.[46]

18. ADS filed a request for waiver of Section 87.131 to permit equipment certification of a system to test aircraft data link systems.[47] The request was granted, subject to certain conditions.[48] Specifically, operation is limited to the 129.125-136.975 MHz segment of the 118-137 MHz band (with only the 136.900-136.975 MHz segment used for VDL2 with emission designator 14K0G1D); output power is limited to one hundred microwatts; and the device must comply with all applicable emission requirements in the International Civil Aviation Organization Manual on VHF Digital Link (VDL) Mode 2[49] and the ACARS specifications set forth in RTCA DO-281A,[50] and be designed so that it will engage in data link exchange only with the aircraft whose identification has been programmed into the device.[51]

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[42] Wireless Telecommunications Bureau Seeks Comment on Potomac Aviation Technology Corporation Request for Interpretation or Waiver of Sections 87.71 and 87.73 of the Commission's Rules, *Public Notice*, WT Docket No. 09-42, 24 FCC Rcd 3632 (WTB MD 2009). PATC also filed comments in WT Docket No. 01-289 seeking amendments to Sections 87.71 and 87.73. We believe that the instant proceeding is a more appropriate vehicle for addressing PATC's proposal, and will incorporate PATC's WT Docket No. 01-289 comments into the record herein.

[43] *See* Potomac Aviation Technology Corp., *Order*, DA 10-316 (WTB MD rel. Feb. 25, 2010).

[44] *See* Amendment of Parts 2 and 87 of the Commission's Rules to permit the Aviation Services to use frequencies in the 136-137 MHz band, *Notice of Proposed Rule Making*, GEN Docket No. 89-295, 4 FCC Rcd 5224, 5224 n.7 (1989). Data transmitted includes reports on departure and destination, location and time, engine monitoring, aircraft flight position, maintenance discrepancy reports, and winds aloft observations from suitably equipped aircraft.

[45] *See* Amendment of Parts 2 and 87 of the Commission's Rules to Accommodate Advanced Digital Communications in the 117.975-137 MHz Band and to Implement Flight Information Services in the 136-137 MHz Band, *Report and Order*, WT Docket No. 00-77, 16 FCC Rcd 8226, 8232 ¶ 14 (2001).

[46] *See* 47 C.F.R. § 87.131.

[47] Request for Waiver (filed Oct. 15, 2007); *see also* Wireless Telecommunications Bureau Seeks Comment on Request for Waiver by Aviation Data Systems of Part 87 Rules to Allow Certification of a System to Test Aircraft Data Link Systems, *Public Notice*, WT Docket No. 08-9, 23 FCC Rcd 356 (WTB MD 2008).

[48] *See* Aviation Data Systems (Aust) Pty Ltd., *Order*, WT Docket No. 08-9, 24 FCC Rcd 7749 (WTB MD 2009) (*2009 ADS Order*). An earlier request was denied in light of commenters' concerns that ADS's proposed power levels could cause harmful interference to important aviation safety communications in the 118-137 MHz band. *See* Aviation Data Systems (Aust) Pty Ltd., *Order*, 22 FCC Rcd 1603 (WTB MD 2007).

[49] *See* Manual on VHF Digital Link (VDL) Mode 2.

[50] *See* RTCA DO-281A, Minimum Operational Performance Standards for Aircraft VDL Mode 2 Physical, Link and Network Layer**,** November 8, 2005.

[51] *See 2009 ADS Order*, 24 FCC Rcd at 7750 ¶ 4, 7753 ¶ 12.

Use is permitted only on a licensed basis, and the applicant must notify the appropriate FAA Regional Office prior to filing an application for a new or modified station license.[52] Finally, operation of the device is secondary to that of other licensed stations.[53]

19. When the Commission codified the terms of waivers permitting ground testing of TCAS on 1090 MHz, it stated that the waiver process was an inefficient and resource-intensive manner of authorizing such operations.[54] For similar reasons, we propose to codify the terms of ADS's waiver to permit ground testing of aviation data link systems. We seek comment on this proposal.

III. PROCEDURAL MATTERS

20. *Initial Regulatory Flexibility Analysis*. Pursuant to the Regulatory Flexibility Act,[55] the Initial Regulatory Flexibility Analysis is set forth at Appendix B. We request written public comments on the Initial Regulatory Flexibility Analysis. These comments must be filed in accordance with the same filing deadlines as the comments on the rest of the *Notice of Proposed Rule Making*, but they must have a separate and distinct heading designating them as responses to the Initial Regulatory Flexibility Analysis. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, shall send a copy of this *Notice of Proposed Rule Making*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration, in accordance with the Regulatory Flexibility Act.

21. *Paperwork Reduction Analysis*. This *Notice of Proposed Rule Making* does not contain any proposed information collection(s) subject to the Paperwork Reduction Act of 1995, Public Law 104-13. In addition, it does not contain any new or modified "information collection burden for small business concerns with fewer than 25 employees," pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. § 3506(c)(4).

22. *Ex Parte Presentations.* This is a permit-but-disclose notice and comment rulemaking proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in the Commission's Rules.[56]

23. *Alternative formats.* To request materials in alternative formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to <FCC504@fcc.gov> or call the Consumer & Governmental Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (TTY). This *Notice of Proposed Rule Making* also may be downloaded from the Commission's web site at <http://www.fcc.gov/>.

24. *Comment Dates.* Pursuant to Sections 1.415 and 1.419 of the Commission's Rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments on or before **[60 days after publication in the Federal Register]** and reply comments on or before **[90 days after publication in the Federal Register]**.

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[52] *Id.* at 7752 ¶ 10. These requirements already apply to RLT Maintenance Test Facilities, which the MPRT-500 most closely resembles. *Id.* at 7750 ¶ 3, 7752 ¶ 10 (citing 47 C.F.R. § 87.475(a)).

[53] *Id.* at 7753 ¶ 12.

[54] *See Part 87 Report and Order*, 18 FCC Rcd at 21467 ¶ 74.

[55] 5 U.S.C. § 603.

[56] *See generally* 47 C.F.R. §§ 1.1202, 1.1203, 1.1206(a).

25. Commenters may file comments electronically using the Commission's Electronic Comment Filing System (ECFS), the Federal Government's eRulemaking Portal, or by filing paper copies.[57] Commenters filing through the ECFS can send their comments as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. In completing the transmittal screen, commenters should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Commenters may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message, "get form." Commenters will receive a sample form and directions in reply. Commenters filing through the Federal eRulemaking Portal <http://www.regulations.gov>, should follow the instructions provided on the website for submitting comments.

26. Commenters who chose to file paper comments must file an original and four copies of each comment. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number. All filings must be sent to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

27. Commenters may send filings by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., S.W., Room TW-A325, Washington, DC 20554. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of **before** entering the building. Commenters must send commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) to 9300 East Hampton Drive, Capitol Heights, MD 20743. Commenters should address U.S. Postal Service first-class mail, Express Mail, and Priority Mail to 445 12th Street, S.W., Washington, DC 20554.

28. Interested parties may view documents filed in this proceeding on the Commission's Electronic Comment Filing System (ECFS) using the following steps: (1) access ECFS at http://www.fcc.gov/cgb/ecfs. (2) In the introductory screen, click on "Search for Filed Comments." (3) In the "Proceeding" box, enter the numerals in the docket number. (4) Click on the box marked "Retrieve Document List". A link to each document is provided in the document list. Filings and comments are also available for public inspection and copying during regular business hours at the FCC Reference Information Center, 445 12th Street, S.W., Room CY-A257, Washington, DC, 20554. Filings and comments also may be purchased from the Commission's duplicating contractor, Best Copy and Printing, Inc., Portals II, 445 12th Street, S.W., Room CY-B402, Washington, DC 20554, telephone 1-800-378-3160, or via e-mail www.bcpiweb.com.

IV. ORDERING CLAUSES

29. Accordingly, IT IS ORDERED that, pursuant to Sections 4(i), 4(j), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 303(r), NOTICE IS HEREBY GIVEN of the proposed regulatory changes described in the *Notice of Proposed of Rule Making*, and COMMENT IS SOUGHT on the proposed regulatory changes as set forth in Appendix A.

[57] *See* Electronic Filing of Documents in Rulemaking Proceedings, *Report and Order*, GC Docket No. 97-113, 13 FCC Rcd 11322 (1998).

30. IT IS FURTHER ORDERED that the Commission's Consumer & Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Notice of Proposed Rule Making*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

Proposed Rules

Chapter 1 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

Part 87 – Aviation Services

1. The authority citation for Part 87 continues to read as follows:

AUTHORITY: 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, 307(e) unless otherwise noted. Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C. 151-156, 301-609.

2. Section 87.5 is amended by adding the definition of an Aircraft data link systems and revising the definition of Radionavigation land test stations to read as follows:

§ 87.5 Definitions.

* * *

Aircraft data link system. A system used to provide data communications between the aircraft and ground personnel necessary for the safe, efficient and economical use of the aircraft.

* * *

Radionavigation land test stations. A radionavigation land station which is used to transmit information essential to the testing and calibration of aircraft navigational aids, receiving equipment, data link systems, and interrogators at predetermined surface locations. The Maintenance Test Facility (MTF) is used primarily to permit maintenance testing by aircraft radio service personnel. The Operational Test Facility (OTF) is used primarily to permit the pilot to check a radionavigation system aboard the aircraft prior to takeoff.

* * * * *

3. Section 87.131 is amended by revising the table entries for Aeronautical utility mobile and Radionavigation land test to read as follows:

§ 87.131 Power and emissions.

* * *

* * *	* * *	* * *	* * *
Aeronautical utility mobile	VHF 1090 MHz	A3E M1D	10 watts. 20 watts.
Radionavigation land test	108.150 MHz 334.550 MHz Other VHF Other UHF	A9W A1N M1A, XXA, A1A, A1N, A2A, A2D, A9W G1D M1A, XXA, A1A, A1N, A2A, A2D, A9W	1 milliwatt. 1 milliwatt. 1 watt. 100 microwatts. 1 watt.

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4. Section 87.133 is amended by revising the table in paragraph (a) to add an entry under Band-470 to 2450 MHz between Aircraft earth station and Radionavigation stations read as follows:

§ 87.133 Frequency stability.

(a) * * *

* * *	* * *	* * *
Aeronautical utility mobile stations on 1090 MHz	1000	1000
* * * * *	* * * * *	* * * * *

5. Section 87.137 is amended by revising the table in paragraph (a) to add an entry between M1A and NON to read as follows:

§ 87.137 Types of emission.

(a) * * *

* * *	* * *	* * *	* * *	* * *
M1D	14M00M1D	14.0	……	……
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *

6. Section 87.173 is amended by revising the table in paragraph (b) to read as follows:

§ 87.173 Frequencies.

* * * * *

(b) * * *

Frequency or frequency band	Subpart	Class of station	Remarks
* * *	* * *	* * *	* * *
128.825–132.000 MHz	I, Q	MA, FAE, RLT	Domestic VHF; 25 kHz channel spacing.
132.025–135.975 MHz	O	MA, FAC, FAW, GCO, RCO, RPC	25 kHz channel spacing.

136.000–136.400 MHz	O, S	MA, FAC, FAW, GCO, RCO, RPC	Air traffic control operations; 25 kHz channel spacing.
136.425 MHz	O, S	MA, FAC, FAW, GCO, RCO, RPC	Air traffic control operations.
136.450 MHz	O, S	MA, FAC, FAW, GCO, RCO, RPC	Air traffic control operations.
136.475 MHz	O, S	MA, FAC, FAW, GCO, RCO, RPC	Air traffic control operations.
136.500–136.875 MHz	I, Q	MA, FAE, RLT	Domestic VHF; 25 kHz channel spacing.
136.900 MHz	I, Q	MA, FAE, RLT	International and Domestic VHF.
136.925 MHz	I, Q	MA, FAE, RLT	International and Domestic VHF.
* * *	* * *	* * *	* * *
1030.000 MHz	Q	RLT	
1090.000 MHz	L	MOU	Vehicle Squitter.
1104.000 MHz	Q	RLT	
* * * * *	* * * * *	* * * * *	* * * * *

7. Section 87.349 is amended by adding paragraph (f) to read as follows:

§ 87.349 Frequencies.

* * * * *

(f) The Commission will assign frequency 1090 MHz for use by aeronautical utility mobile stations for runway vehicle identification and collision avoidance after coordination with the FAA, subject to the following conditions:

(1) Eligibility is restricted to airport authorities, or entities approved by the FAA;

(2) No more than two hundred 1090 MHz aeronautical utility mobile stations will be authorized at one airport;

(3) Licenses are limited to only those locations that are within the vicinity of an FAA ASDE-X multilateration system or ADS-B equipment, and/or where the primary purpose for seeking transmit authorization is to provide surface data to aircraft and air traffic control authorities.

(4) Message transmission rates are limited as indicated in the table below:

ADS-B Message	Rate When Moving	Rate When Stationary
Surface Position Message (Types 5, 6, 7, 8)	Every 0.4 to 0.6 seconds	Every 4.8 to 5.2 seconds
Aircraft Operational Status (Type 31)	Every 4.8 to 5.2 seconds	Every 4.8 to 5.2 seconds
Aircraft Identification and Type (Type 2)	Every 4.8 to 5.2 seconds	Every 9.8 to 10.2 seconds

8. Section 87.475 is amended by redesignating paragraph (b)(9) as (b)(15), adding new paragraphs (b)(9) through (b)(14), revising paragraph (c)(1), renumbering paragraph (c)(2) as (c)(3) and revising it, and adding a new paragraph (c)(2) to read as follows:

§ 87.475 Frequencies.

* * * * *

(b) * * *

(9) 2700-2900 MHz: Non-Government land-based radars may be licensed. U.S. Government coordination is required. Applicants must demonstrate a need for the service which the Government is not prepared to render.

(10) 5000-5250 MHz: This band is to be used for the operation of the international standard system (microwave landing system).

(11) 9000-9200 MHz: This band is available to land-based radars. Stations operating in this band may receive interference from stations operating in the radiolocation service.

(12) 14,000-14,400 MHz: This band is available for use in the aeronautical radionavigation service.

(13) 15,400-15,700 MHz: This band is available for use of land stations associated with airborne electronic aids to air navigation.

(14) 24,250-25,250, 31,800-33,400 MHz: In these bands, land-based radionavigation aids are permitted where they operate with airborne radionavigation devices.

* * *

(c) *Frequencies available for radionavigation land test stations.* (1) The frequencies set forth in §§ 87.187(c), (e) through (j), (r), (t), and (ff), 87.263(a) and 87.475(b)(6) through (b)(10), (b)(12) and (b)(15) may be assigned to radionavigation land test stations for the testing of aircraft transmitting equipment that normally operate on these frequencies and for the testing of land-based receiving equipment that operate with airborne radionavigation equipment.

(2) The band 129.125-136.975 MHz may also be used to test aircraft data link systems on a secondary basis to other licensed stations. The applicant must notify the appropriate Regional Office of the FAA prior to submitting to the Commission an application for a new station or for modification of an existing station. Each application must include the FAA Regional Office notified and the date of notification. Equipment must be designed so that it will engage in data link exchange only with the aircraft whose identification has been programmed into the device, and must comply with the applicable specifications for VDL Mode 2 operation set forth in the ICAO Manual on VHF Digital Link (VDL) Mode 2 and RTCA DO-281A, Minimum Operational Performance Standards for Aircraft VDL Mode 2 Physical, Link and Network Layer**,** November 8, 2005. These documents are incorporated by reference in accordance with 5 U.S.C. 552(a), and 1 CFR part 51. The RTCA document is available and may be obtained from the Radio Technical Commission of Aeronautics, One McPherson Square, 1425 K Street N.W., Washington, DC 20005. The ICAO document is available and may be obtained from the ICAO, Customer Services Unit, 999 University Street, Montréal, Quebec H3C 5H7, Canada. The documents are available for inspection at Commission headquarters at 445 12th Street, SW., Washington, DC 20554. Copies may also be inspected at the Office of the Federal Register, 800 North Capital Street NW., suite 700, Washington, DC.

(3) The frequencies available for assignment to radionavigation land test stations for the testing of airborne receiving equipment are 108.000 and 108.050 MHz for VHF omni-range; 108.100 and 108.150 MHz for localizer; 334.550 and 334.700 MHz for glide slope; 978 and 979 MHz (X channel)/1104 MHz

(Y channel) for DME; 978 MHz for Universal Access Transceiver; 1030 MHz for air traffic control radar beacon transponders; 1090 MHz for Traffic Alert and Collision Avoidance Systems (TCAS); and 5031.0 MHz for microwave landing systems. Additionally, the frequencies in paragraph (b) of this section may be assigned to radionavigation land test stations after coordination with the FAA. The following conditions apply:

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APPENDIX B

Initial Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act (RFA),[1] the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules proposed in the *Notice of Proposed Rule Making* in WT Docket Nos. 10-61 and 09-42 (*NPRM*). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *NPRM* as provided in paragraph 24 of the item, *supra*. The Commission will send a copy of the *NPRM*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.[2] In addition, the *NPRM* and IRFA (or summaries thereof) will be published in the Federal Register.[3]

A. Need for, and Objectives of, the Proposed Rules

The proposed rules in the *NPRM* are intended to address new requirements for aviation radio equipment in a manner that will further aviation safety; and to amend the aviation rules related to the installation and maintenance of aviation equipment and the testing of aviation data link systems. In the *NPRM*, we request comment specifically on whether we should: (a) permit the operation and licensing of vehicle squitters on frequency 1090 MHz to promote aviation safety, and (b) remove the requirement that a holder of a General Radiotelephone Operator Licensees (GROL) be physically present during installation and maintenance of certain land-based Aviation Radio Service stations, and (c) permit a new emission type for radionavigation land test equipment (RLT).

B. Legal Basis

Authority for issuance of this item is contained in Sections 4(i), 303(r), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r) and 403.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply

The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.[4] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[5] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[6] A small business concern is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation;

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[1] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601–612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] *See* 5 U.S.C. § 603(a).

[3] *Id*.

[4] 5 U.S.C. § 603(b)(3).

[5] *Id*.

[6] 5 U.S.C. § 601(3).

and (3) satisfies any additional criteria established by the SBA.[7] Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency after consultation with the Office of Advocacy of the SBA, and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

Small businesses in the aviation radio services use very high frequency (VHF), medium frequency (MF), or high frequency (HF) radio, radar, aircraft radio, and/or any type of emergency locator transmitter (ELT). The Commission has not developed a definition of small entities specifically applicable to these small businesses. For purposes of this IRFA, therefore, the applicable definition of small entity is the definition under the SBA rules applicable to wireless service providers. The SBA has developed a small business size standard for wireless firms within the two broad economic census categories of "Paging"[8] and "Cellular and Other Wireless Telecommunications."[9] Under both categories, the SBA deems a wireless business to be small if it has 1,500 or fewer employees. For the census category of Paging, Census Bureau data for 2002 show that there were 807 firms in this category that operated for the entire year.[10] Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.[11] Thus, under this category and associated small business size standard, the majority of firms can be considered small. For the census category of Cellular and Other Wireless Telecommunications, Census Bureau data for 2002 show that there were 1,397 firms in this category that operated for the entire year.[12] Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.[13] Thus, under this second category and size standard, the majority of firms can, again, be considered small.

Some of the rules proposed herein may also affect small businesses that manufacture aviation radio equipment. The Commission has not developed a definition of small entities applicable to aviation radio equipment manufacturers. Therefore, the applicable definition is that for Radio and Television Broadcasting and Wireless Communications Equipment Manufacturers. The Census Bureau defines this category as follows: "This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment."[14] The SBA has developed a small business size standard for Radio and

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[7] 5 U.S.C. § 632.

[8] 13 C.F.R. § 121.201, NAICS code 517211.

[9] 13 C.F.R. § 121.201, NAICS code 517212.

[10] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization," Table 5, NAICS code 517211 (issued Nov. 2005).

[11] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

[12] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization," Table 5, NAICS code 517212 (issued Nov. 2005).

[13] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

[14] U.S. Census Bureau, 2002 NAICS Definitions, "334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing"; http://www.census.gov/epcd/naics02/def/NDEF334.HTM#N3342.

Television Broadcasting and Wireless Communications Equipment Manufacturing, which is: all such firms having 750 or fewer employees.[15] According to Census Bureau data for 2002, there were a total of 1,041 establishments in this category that operated for the entire year.[16] Of this total, 1,010 had employment of under 500, and an additional 13 had employment of 500 to 999.[17] Thus, under this size standard, the majority of firms can be considered small.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

The rule changes under consideration in the *NPRM* would require manufacturers to meet certain criteria and potential licensees would be required to operate the equipment as prescribed in the Rules, including prior coordination with the FAA. We believe the other proposed rules would have no significant effect on the compliance burdens of regulatees. We invite comment on our tentative conclusion that the possible rule changes will not have a negative impact on small entities, or for that matter any entities, and do not impose new compliance costs on any entity. To the extent that commenters believe that any of the above possible rule changes would impose a new reporting, recordkeeping, or compliance burden on small entities, we ask that they describe the nature of that burden in some detail and, if possible, quantify the costs to small entities.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities and Significant Alternatives Considered

The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives: (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[18]

This *NPRM* proposes to permit new equipment to be utilized by ground vehicles at airports; to remove the requirement that the holder of a General Radiotelephone Operator Licensees (GROL) be physically present during an installation or maintenance of certain land-based Aviation Radio Service station; and to permit a new emission type for radionavigation land test equipment (RLT). To the extent commenters believe that other of the discussed rule changes would impose a compliance burden on small entities, we ask that they address whether any of the above approaches to reduce that burden is appropriate.

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[15] 13 C.F.R. § 121.201, NAICS code 334220.

[16] U.S. Census Bureau, American FactFinder, 2002 Economic Census, Industry Series, Industry Statistics by Employment Size, NAICS code 334220 (released May 26, 2005); http://factfinder.census.gov. The number of "establishments" is a less helpful indicator of small business prevalence in this context than would be the number of "firms" or "companies," because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census breaks-out data for firms or companies only to give the total number of such entities for 2002, which was 929.

[17] *Id*. An additional 18 establishments had employment of 1,000 or more.

[18] 5 U.S.C. § 603(c)(1)-(4).

We hereby invite interested parties to address any or all of these regulatory alternatives and to suggest additional alternatives to minimize any significant economic impact on small entities. Any significant alternative presented in the comments will be considered.

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

None.